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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/714,640	11/18/2003	Makoto Shioya	03560.003396.	2529

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EXAMINER.

NGUYEN, LAMSON D

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/714,640	SHIOYA, MAKOTO	
	Examiner	Art Unit	
	Lamson D. Nguyen	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment dated 06/05/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 7-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,17,18 and 21-25 is/are rejected.
- 7) ☒ Claim(s) 3, 19-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, 5, 22, 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Takagi et al. (5,384,587).

Takagi et al teach a recording method comprising:

Claims 1, 22:

- reading an image reocoded by a predetermined number of scans among multiple scans of a recording head except at least the last scan (figure 11 teaches printing is done in 2 scans, wherein data is read only for first main scan to print data for the first scan)
- correcting, based on a result of reading the image in the reading step, data for an image to be recorded by one or more scans subsequent to the predetermined number of scans (figure 11 teaches in the second main scan, printing is done so as to overlap partially the first main scan to correct printing unevenness); and
- correctively recording an image by performing one or more scans subsequent to the predetermined number of scans in accordance with the corrected data

(figure 11 teaches the second main scan is performed to correct printing unevenness)

Claim 2:

- the predetermined number of scans are all of the multiple scans except the last scan (figure 11 teaches printing is done in 2 main scans, wherein data is read only for the first main scan for printing the first main scan)

Claims 4, 24:

- the recording head is an inkjet head capable of discharging ink droplets of plural sizes different from each other and the subsequent one or more scans perform recording by discharging the ink droplets having the smallest size among the ink droplets of plural sizes (figure 1 teaches inkjet head; figure 11 teaches printing of small and large dots, wherein the subsequent second main scan, small dots are printed)

Claim 5:

- the recording system performs recording by repeating main scan recording mode by the recording head scanned in a main scanning direction and a subscan in which a recording medium is fed in a subscanning direction and the subscan is performed by feeding the medium through a distance that is

smaller than a recording width of the recording head in the subscanning direction (figure 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi in view of Kanda et al. (6,471,322).

Takagi teaches all claimed features of the invention except:

- recording a plurality of dots in one pixel area and performs gradation recording depending on the number of dots formed in one pixel area

Meanwhile, Kanda et al teach printing patterns of dots (figure 12b). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the invention of Takagi to incorporate the teaching of various ink dot patterns as taught by Kanda et al for the purpose of achieving different dot gradations and resolutions.

Claims 17, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi in view of Kanda et al. (US 2002/0067393).

Takagi et al teach all claimed features of the invention except teaching of only a portion of the discharge ports of the recording head are used in the predetermined number of scans and a different portion of discharge ports of the recording head are used in the one or more scans subsequent to the predetermined number of scans.

Meanwhile, Kanda et al. Teach an inkjet printhead that uses different nozzles in different printing scans (figure 12).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the invention of Takagi et al to incorporate the teaching of printing with different nozzles in different scans as taught by Kanda et al for the purpose of reducing ink bleeding.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi in view of Fujita et al (US 2002/0024558).

Takagi teaches all claimed features of the invention except producing binary-coded data that represents the ink that is discharged from each discharge port of the recording head, such binary-coded data is produced by simple binary-coding, dithering, a method using a mask, or an error dispersion method.

It is well-known in the art to use binary data representing image by a mask as taught by Fujita et al (figures 33, 36, or 41).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the invention of Takagi to incorporate the teaching of masks taught by Fujita et al for the purpose of reducing print color irregularity.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi in view of Fujita.

Takagi teaches all claimed features of the invention except the second recording step is performed at a higher precision than the first recording step.

It is well-known in the art to print with a higher density in one scan than a previous scan as taught by Fujita (figure 37).

Therefore, it would have been obvious to one having ordinary skill in the art to modify the invention of Takagi to incorporate the teaching of higher density in later scans taught by Fujita for the purpose of reducing color bleeding.

Allowable Subject Matter

Claims 3, 19-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 06/05/06 have been fully considered but they are not persuasive.

On page 10 of the applicant's argument, the applicant argues that Takagi does not teach correction data based on a result of reading of a recorded image. The examiner disagrees. The examiner's take on "reading the image recorded" is that the printer reads from the image data to be printed that the second scanning does the corrections after the first scanning is completed. The examiner feels that what the applicant wants to claim is the actual reading step takes place in "real" time. However, that is not being claimed.

Conclusion


THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lamson D. Nguyen whose telephone number is 571-272-2259. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Talbott can be reached on 571-272-1934. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


LAMSON NGUYEN
PRIMARY EXAMINER
08/20/06